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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,761

05/10/2006

Hideki Ichihashi

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EXAMINER

GILLESPIE, BENJAMIN

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,761	Applicant(s) ICHIHASHI ET AL.	
	Examiner Benjamin J. Gillespie	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/10/2006, 1/11/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "obtainable" render the claims indefinite because it fails to particularly point out and distinctly claim the invention since one cannot determine from the phrase just which compositions are "obtainable by" applicants process and which are not.
2. Claim 7 provides for the use of a hot-melt adhesive, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.
3. Claim 7 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) and 103(a) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kowitz et al ('895). Kowitz et al teach a polyurethane hot-melt adhesive based on the reaction product of polyisocyanate and polyester polyol, wherein the polyester polyol is the reaction product of aliphatic and aromatic dicarboxylic acid and aliphatic diol (Abstract). In particular, patentees explain that the aliphatic diol consists of dodecanediol, the aromatic and aliphatic dicarboxylic acid are present by amounts of 20-95 mol% and 5-80 mol% respectively, and the resulting polyester has an average molecular weight as low as 5,000 g/mol (Col 4 lines 18-19; col 5 lines 1-3)

5. Claims 3 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kowitz et al ('895). As previously discussed, Kowitz et al teach polyurethane hot-melt adhesives based on polyester polyol and polyisocyanate, wherein the polyester contains aliphatic and aromatic components in amounts that correspond to applicants' claims, however patentees are silent in specifying melting points or enthalpy at crystallization on a differential scanning calorimeter.

6. Nevertheless, based on analogous reactants, overlapping molar amounts, and identical applications, the position is taken that the polyester of Kowitz et al would inherently exhibit the claimed properties. Furthermore, it is important to note that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim it is appropriate for the examine to make a

rejection under both the applicable section of 35 U.S.C. 102 and 35 U.S.C. 103 such that the burden is placed upon the applicant to provide clear and convincing factual evidence that the respective products do in fact differ in kind. *In re Brown*, 59 (CCPA 1974).

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krebs et al (2003/0144454) in view of Kowitz et al ('895). Krebs et al teach a polyurethane hot-melt adhesive based on the reaction product of a polyester polyol and polyisocyanate, wherein the polyester has an average molecular weight as much as 10,000, and is based on aliphatic diol, and a mixture of aromatic and aliphatic dicarboxylic acid (Abstract; paragraphs 11-14). In particular, Krebs et al explain that the aliphatic dicarboxylic acid and diol consist of dodecanedioic acid and dodecanediol, respectively. Patentees are silent, however, in specifying the amount of each respective species that comprise the dicarboxylic acid mixture.

8. Aforementioned, Kowitz et al teach a polyurethane hot-melt adhesive comprising the reaction product of polyisocyanate and polyester polyol, wherein the polyester is based on both aliphatic and aromatic dicarboxylic acid. In particular, patentees disclose amounts of aliphatic and aromatic dicarboxylic acid in amounts that correspond to applicants' claimed range, and go on to teach that compositions based on these ratios result in adhesives that exhibit excellent heat resistance, surface quality, and mechanical properties (Col 2 lines 23-25, 35-38).

9. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the amounts of aliphatic and aromatic dicarboxylic acid in Krebs et al based on the teaching of Kowitz et al that stated it would result in a polyurethane adhesive that displays superior performance properties. Furthermore, concerning the limitations of claims 3 and 4,

based on identical reactants, and the teaching to utilize them in the same amounts as claimed, one would reasonably expect the resulting polyester to exhibit the same claimed properties.

10. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munzmay et al ('995). Munzmay et al teach a polyurethane hot-melt adhesive based on the reaction comprising the reaction product of a polyester polyol and polyisocyanate, wherein the polyester has an average molecular weight as high as 10,000, and is based on aliphatic diol, and a mixture of aromatic and aliphatic dicarboxylic acid (Abstract; col 2 lines 39-40; col 3 lines 35-36). In particular, Munzmay et al explain that the aliphatic dicarboxylic acid and diol consist of dodecanedioic acid and dodecanediol, respectively, and the resulting polyester has a melting point between 40°C and 150°C (Col 3 lines 11-13, 23, and 28).

11. However, patentees are silent in specifying the amounts of aliphatic and aromatic dicarboxylic acid, nevertheless it would have been obvious to arrive at applicants' claimed ranges based the holding that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233; *In re Reese* 129 USPQ 402.

12. Regarding claim 4, based on identical reactants, and the rational set forth in paragraphs 10 and 11 regarding the amounts of said reactants, one would reasonably expect the resulting polyester to exhibit the same claimed properties.

13. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munzmay et al ('995) in view of Kowitz et al (895). As previously discussed, Munzmay et al teach a polyurethane hot-melt adhesive that is based on polyester and polyisocyanate, wherein the polyester comprising a mixture of aliphatic and aromatic dicarboxylic acid. Patentees are silent,

however, in specifying how much of each dicarboxylic acid should be present in the reaction mixture.

14. Kowitz et al teach a polyurethane hot-melt adhesive comprising the reaction product of polyisocyanate and polyester polyol, wherein the polyester is based on both aliphatic and aromatic dicarboxylic acid. In particular, patentees disclose amounts of aliphatic and aromatic dicarboxylic acid in amounts that correspond to applicants' claimed range, and go on to teach that compositions based on these ratios result in adhesives that exhibit excellent heat resistance, surface quality, and mechanical properties (Col 2 lines 23-25, 35-38).

15. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the amounts of aliphatic and aromatic dicarboxylic acid in Munzmay et al based on the teaching of Kowitz et al that stated it would result in a polyurethane adhesive that displays superior performance properties. Furthermore, concerning the limitation of claim 4, based on overlapping melt temperatures, identical reactants, and the teaching to utilize them in the same amounts as claimed, one would reasonably expect the resulting polyester to exhibit the same properties as claimed.

Conclusion


16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie


RABON SERGENT
PRIMARY EXAMINER